

What is claimed is:

CLAIMS

1. A method to determine when a media handling system configuration is valid,
5 the configuration comprising N modules linked so that a first module is linked to a second module, the second module is linked to a third module, and so forth, and an (N-1)th module is linked to an Nth module, the direction from the first module to the Nth module defined as downstream, each module characterized by a type and an order, each module's type having a corresponding type value that is a member of a
10 predetermined group of type values, each module's order having a corresponding order value that is based on the module's linkage in the configuration so that the first module has an order value of 1, the second module has an order value of 2, the third module has an order value of 3, and so forth, the (N-1)th module has an order value of (N-1) and the Nth module has an order value of N, at least one module
15 having a type value of feeder, thus forming a feeder module, the media handling system including a controller and a communication means, the method comprising:
a) by a feeder module, feed a sheet of media;
b) by each module downstream of the feeder module:
b1) process the sheet, thus forming a sheet processing;
20 b2) form a reporting message including a reported time value based on the sheet processing and a reported type value based on the module's type value; and
b3) send the reporting message to the controller;
c) by the controller, for each module downstream of the feeder module:
c1) receive a reporting message from the module, the reporting message
25 containing the module's reported time value and the module's reported type value;
c2) determine an order value for the module based on the module's reported time value, thus forming a determined order value; and
c3) determine a type value for the module based on the module's reported type value, thus forming a determined type value.

30

2. The method of claim 1 including, by the controller, determining when the determined order value and the determined type value for at least one module downstream of the feeder module match a predetermined pattern.

5 3. The method of claim 1 including, by the controller, determining when the determined order value and the determined type value match a predetermined pattern, and based on determining that the determined order value and the determined type value for any module downstream of the feeder module do not match the predetermined pattern, determining that the configuration is not valid.

10

4. The method of claim 1 including, by the controller, determining when the determined order value and the determined type value match a predetermined pattern, and based on determining that the determined order value and the determined type value for all modules downstream of the feeder module match the predetermined pattern, determining that the configuration is valid.

15

5. The method of claim 1, the communication means comprising an internet communication network.

20

6. The method of claim 1, the communication means comprising a wireless or radio frequency communication network.

7. The method of claim 1, the communication means comprising a local area communication network.

25

8. The method of claim 1 including providing a feeder module as the first module.

9. The method of claim 1, the configuration having a plurality of feeder modules, including selecting a feeder module from the plurality of feeder modules.

30

10. The method of claim 1, the direction from the Nth module to the first module defined as upstream, each module's reported time value based on the module receiving the sheet from the adjacent upstream module.

5 11. The method of claim 1, the direction from the Nth module to the first module defined as upstream, each module's reported time value based on any of the module receiving the sheet from the adjacent upstream module and the module transmitting the sheet to the adjacent downstream module.

10 12. The method of claim 1 wherein the media handling system comprises a printing system.

13. The method of claim 12 wherein the controller comprises a scheduler.

15 14. The method of claim 1 wherein the media comprises paper.

15. A media handling system comprising a configuration of N modules linked so that a first module is linked to a second module, the second module is linked to a third module, and so forth, and an (N-1)th module is linked to an Nth module, the direction from the first module to the Nth module defined as downstream, each
5 module characterized by a type and an order, each module's type having a corresponding type value that is a member of a predetermined group of type values, each module's order having a corresponding order value that is based on the module's linkage in the configuration so that the first module has an order value of 1, the second module has an order value of 2, the third module has an order value of
10 3, and so forth, the (N-1)th module has an order value of (N-1) and the Nth module has an order value of N, at least one module having a type value of feeder, thus forming a feeder module, the media handling system including a controller and a communication means, the media handling system arranged to determine when the configuration is valid in accordance with a method, the method comprising:
15 a) by a feeder module, feed a sheet of media;
b) by each module downstream of the feeder module:
b1) process the sheet, thus forming a sheet processing;
b2) form a reporting message including a reported time value based on the sheet processing and a reported type value based on the module's type value; and
20 b3) send the reporting message to the controller;
c) by the controller, for each module downstream of the feeder module:
c1) receive a reporting message from the module, the reporting message containing the module's reported time value and the module's reported type value;
c2) determine an order value for the module based on the module's
25 reported time value, thus forming a determined order value; and
c3) determine a type value for the module based on the module's reported type value, thus forming a determined type value.

16. The media handling system of claim 15, the method including, by the controller, determining when the determined order value and the determined type value for at least one module downstream of the feeder module match a predetermined pattern.

5

17. The media handling system of claim 15, the method including, by the controller, determining when the determined order value and the determined type value match a predetermined pattern, and based on determining that the determined order value and the determined type value for any module downstream of the feeder module do not match the predetermined pattern, determining that the configuration is not valid.

10

18. The media handling system of claim 15, the method including, by the controller, determining when the determined order value and the determined type value match a predetermined pattern, and based on determining that the determined order value and the determined type value for all modules downstream of the feeder module match the predetermined pattern, determining that the configuration is valid.

15

19. The media handling system of claim 15, the communication means comprising an internet communication network.

20

20. The media handling system of claim 15, the communication means comprising a wireless or radio frequency communication network.

25

21. The media handling system of claim 15, the communication means comprising a local area communication network.

22. The media handling system of claim 15, the first module comprising a feeder module.

30

23. The media handling system of claim 15, the configuration having a plurality of feeder modules, the method including selecting a feeder module from the plurality of feeder modules.

5 24. The media handling system of claim 15, the direction from the Nth module to the first module defined as upstream, each module's reported time value based on the module receiving the sheet from the adjacent upstream module.

10 25. The media handling system of claim 15, the direction from the Nth module to the first module defined as upstream, each module's reported time value based on any of the module receiving the sheet from the adjacent upstream module and the module transmitting the sheet to the adjacent downstream module.

15 26. The media handling system of claim 15 wherein the media handling system comprises a printing system.

27. The media handling system of claim 26 wherein the controller comprises a scheduler.

20 28. The media handling system of claim 15 wherein the media comprises paper.